

Page 2

USSN 09/412,140

November 18, 2004

IN THE CLAIMS

Please amend the claims as follows:

1. (cancelled) A medical diagnostic and communications apparatus with audio output comprising:
electronic processing means for processing stethoscope signals and secondary audio signals; an electronic stethoscope sensing means contained within a housing for transducing body sounds to electronic signals, operatively connected to the electronic processing means; one or more secondary audio signal sources operatively connected to electronic processing means; common audio output means connected to electronic processing means to convert electronic stethoscope signals or secondary audio signals to acoustic output, said sounds being produced separately or mixed.
2. (cancelled) A medical diagnostic and communications apparatus as in Claim 1, wherein secondary audio signals are generated by one or more audio signal sources selected from the following: microphone connected to the electronic processing means; digital voice recorder and playback means; speech recognition recorder and playback means; audio signals converted from the receiver of a wireless digital communications means; audio signals converted from cellular telephone communications means; data-to-speech conversion means wherein physiological measurements are converted to speech; data-to-speech conversion means wherein diagnostic analysis results are converted to speech; data-to-speech conversion means wherein medical information is converted to speech; auscultation signal reference recording memory comprising a multitude of medical conditions and associated auscultation sounds;

Page 3

USSN 09/412,140

November 18, 2004

3. (cancelled) A medical diagnostic and communications apparatus as in Claim 2, wherein secondary audio sources are contained within the same housing as the stethoscope sensing means.

4. (cancelled) A medical diagnostic and communications apparatus as in Claim 1, further comprising physiological measurement means which produce physiological measurement results, the results being converted to speech for output via the common audio output means.

5. (cancelled) A medical diagnostic and communications apparatus as in Claim 4 wherein the physiological measurement means perform physiological measurements selected from one or more of the following: blood oxygen level; blood glucose level; blood pressure; body temperature; heart rate as derived from electronic stethoscope sensor signal; EKG measurement; ultrasonic measurement.

6. (cancelled) A medical diagnostic and communications apparatus as in Claim 2 further comprising means for selecting one of a multitude of languages to be used for generated speech output.

7. (cancelled) A medical diagnostic and communications apparatus as in Claim 2 wherein the medical information comprises pharmaceutical dosage and drug interaction data.

8. (cancelled) A medical diagnostic and communications apparatus as in Claim 1 further including a wireless pager means.

9. (cancelled) A medical diagnostic and communications apparatus as in Claim 1 further including a microphone and speech recognition means.

Page 4

USSN 09/412,140

November 18, 2004

10. (cancelled) A medical diagnostic and communications apparatus as in Claim 1 further including radio frequency wireless digital communications means.

11. (cancelled) A medical diagnostic and communications apparatus as in Claim 1 further containing image sensor means.

12. (cancelled) A medical diagnostic and communications apparatus - as in Claim 1 further including display means.

13. (cancelled) A medical diagnostic and communications apparatus as in Claim 12 further including magnifying means for magnifying the display means

14. (cancelled) A medical diagnostic and communications apparatus as in Claim 1 wherein the electronic processing means includes digital memory means for storing software programs downloaded via digital communications means.

15. (cancelled) A medical diagnostic and communications apparatus as in Claim 1 wherein the electronic processing means comprises a handheld digital computer.

16. (cancelled) A medical diagnostic and communications apparatus as in Claim 15, further containing wireless digital communications means to access remote medical information storage and retrieval means.

17. (cancelled) A medical diagnostic and communications apparatus comprising an electronic stethoscope sensor physically attached via mounting means to, and operatively connected to, electronic processing means comprising a handheld computer containing audio

Page 5

USSN 09/412,140

November 18, 2004

driver means for processing and producing stethoscope sounds from said sensor.

18. (cancelled) A medical measurement and communications apparatus comprising an ultrasonic measurement sensor operatively connected to electronic processing means comprising a handheld computer containing display means for displaying images processed from said sensor.

19. (new) An electronic stethoscope with expanded program execution and communications capability, comprising:

A portable housing in the physical form of a stethoscope that is wearable around the neck or shoulders of an operator, to house further elements of the invention comprising

Central processing unit,

Digital memory means,

Software programs stored in digital memory means and executable by said central processing unit,

Digital communications means,

Wherein software programs can be downloaded via digital communications means, stored in digital memory, and executed by central processing unit.

20. (new) The electronic stethoscope as in Claim 19 wherein digital memory means is non-volatile memory selected from the group Flash memory, EEPROM, battery-backed RAM.

21. (new) The electronic stethoscope as in Claim 19 wherein digital memory means is magnetic media with software programs storage.

Page 6

USSN 09/412,140

November 18, 2004

22. (new) The electronic stethoscope as in Claim 19 wherein digital memory means is physically removable from electronic stethoscope housing.

23. (new) The electronic stethoscope as in Claim 19 wherein digital communications means is a wired cable.

24. (new) The electronic stethoscope as in Claim 19 wherein digital communications means is an infrared optical communications link.

25. (new) The electronic stethoscope as in Claim 19 wherein digital communications means is a wireless communications link.

26. (new) The electronic stethoscope as in Claim 19 wherein digital communications means is a wireless communications means physically removable from said electronic stethoscope housing.

27. (new) The electronic stethoscope as in Claim 19 wherein digital communications means uses an 802.11 communications protocol.

28. (new) The electronic stethoscope as in Claim 19 wherein digital communications means uses an Internet protocol selected from the group TCP/IP, FTP, PPP communications protocols.

29. (new) The electronic stethoscope as in Claim 19 wherein one or more software programs are medical information software programs selected from the group drug dosage database access software, drug interaction database access software, medical research database access software.

Page 7

USPN 09/412,140

November 18, 2004

30. (new) The electronic stethoscope as in Claim 29 further comprising a barcode reader operatively connected to central processing unit such that database reading and writing can be effected by barcode scanner input.

31. (new) The electronic stethoscope as in Claim 19 wherein software includes algorithms for the processing of auscultation sounds.

Claim 32. (new) An electronic stethoscope with expanded physiological measurement capability, comprising:

A portable housing in the physical form of a stethoscope that is wearable around the neck or shoulders of an operator, to house further elements of the invention comprising:

Central processing unit,

Battery power supply,

First physiological measurement means for detecting and reproducing body sounds,

Additional physiological measurement means selected from one or more of the group blood oxygen measurement means, blood glucose measurement means.

Wherein central processing unit and battery power supply provide control and electrical power respectively to all of said physiological measurement means, and housing provides a unified portable platform for carrying all said elements.

33. (new) The electronic stethoscope as in claim 32, wherein additional physiological measurement means are in modular form that are physically removable from said portable housing.

34. (new) An electronic stethoscope with expanded display capability comprising:

Page 8

USSN 09/412,140

November 18, 2004

Auscultation sensor and electronics to sense body sounds,

Headphones for reproducing body sounds,

A miniature virtual display device which provides information display by placing the eye close to the display screen and viewing a virtual image,

Digital communications means,

User input and control means,

wherein auscultation sensor, headphones, virtual display, user input and control means, and digital communications means are housed in the physical form of a stethoscope that can be worn by an operator around the neck or on the shoulders.

35. (new) An electronic stethoscope with expanded patient information acquisition capability, comprising:

A portable housing in the physical form of a stethoscope that is wearable around the neck or shoulders of an operator, to house further elements of the invention comprising;

Central processing unit,

Battery power supply,

Physiological measurement means for detecting and reproducing body sounds,

Additional patient information acquisition means selected from one or more of the group barcode scanner for optical scanning of barcode labels for patient records, video input means to record still or moving images of a patient,

Wherein central processing unit and battery power supply provide control and electrical power respectively to all of said physiological and patient information acquisition elements, and said housing provides a unified portable platform for housing, carrying and operating said elements.

Claim 36. (new) An electronic stethoscope with expanded audio

Page 9

USSN 09/412,140

November 18, 2004

capability, comprising:

A portable housing in the physical form of a stethoscope that is wearable around the neck or shoulders of an operator, to house further elements of the invention comprising:

Central processing unit,

Battery power supply,

First audio input means for detecting body sounds,

Second audio input means for detecting voice sounds,

Digital memory means for recording said body sounds and voice sounds,

Headphones for audio reproduction integrated into portable housing,

Wherein central processing unit, battery power supply, and digital memory means provide control, electrical power, and storage capability, respectively, to both first and second audio input means, said headphones provide audio output for both first and second input means, and said housing provides a unified portable platform for housing and carrying said elements.

CONTINUED NEXT PAGE